



# iPad Air LTE Battery Replacement

Replace the battery on an iPad Air LTE.

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## INTRODUCTION

Use this guide to replace an old or failed battery that no longer holds a charge, and bring the life back to your iPad Air LTE.

**Before you begin, drain your iPad's battery below 25% charge.** This will minimize the risk of a dangerous thermal runaway in the event that you accidentally puncture or deform the battery.

Lithium ion batteries contain dangerous chemicals and may catch fire and explode if punctured or mishandled. Use caution.



### TOOLS:

- [iOpener](#) (1)
- [iFixit Opening Picks set of 6](#) (1)
- [Suction Handle](#) (1)
- [Tweezers](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [Spudger](#) (1)
- [Plastic Cards](#) (2)



### PARTS:

- [iPad Air \(1st Gen\) Battery](#) (1)
- [iPad Air and iPad 5 Adhesive Strips](#) (1)

## Step 1 — iOpener Heating



-  We recommend that you clean your microwave before proceeding, as any nasty gunk on the bottom may end up stuck to the iOpener.
- Place the iOpener in the center of the microwave.
-  For carousel microwaves: Make sure the plate spins freely. If your iOpener gets stuck, it may overheat and burn.

## Step 2



- Heat the iOpener for **thirty seconds**.
- Throughout the repair procedure, as the iOpener cools, reheat it in the microwave for an additional thirty seconds at a time.

- ⚠ Be careful not to overheat the iOpener during the repair. Overheating may cause the iOpener to burst.
- ⚠ Never touch the iOpener if it appears swollen.
- ⚠ If the iOpener is still too hot in the middle to touch, continue using it while waiting for it to cool down some more before reheating. A properly heated iOpener should stay warm for up to 10 minutes.



## Step 3



- Remove the iOpener from the microwave, holding it by one of the two flat ends to avoid the hot center.

⚠ The iOpener will be very hot, so be careful when handling it. Use an oven mitt if necessary.

## Step 4 — Front Panel



- If your display glass is cracked, keep further breakage contained and prevent bodily harm during your repair by taping the glass.
- Lay overlapping strips of clear packing tape over the iPad's display until the whole face is covered.
  - ⓘ This will keep glass shards contained and provide structural integrity when prying and lifting the display.
- Do your best to follow the rest of the guide as described. However, once the glass is broken, it will likely continue to crack as you work, and you may need to use a metal prying tool to scoop the glass out.

 Wear safety glasses to protect your eyes, and be careful not to damage the LCD screen.

## Step 5



- Handling it by the tag, place the heated iOpener on the side of the iPad to the left of the home button assembly.
- Let the iOpener sit for at least a minute to soften the adhesive beneath the glass.

## Step 6



**i** While the iPad looks uniform from the outside, there are delicate components under the front glass. To avoid damage, **only** heat and pry in the areas described in each step.

- As you follow the directions, take special care to avoid prying in the following areas:
  - Front-facing camera
  - Antennas
  - Display cables

## Step 7



- Carefully place a suction cup halfway up the heated side.
  - Be sure the cup is completely flat on the screen to get a tight seal.
- While holding the iPad down with one hand, pull up on the suction cup to slightly separate the front panel glass from the rear case.

## Step 8



- Place an opening pick in the gap opened by the suction cup.
  - ⚠ Don't insert the opening pick any deeper than the black bezel on the side of the display. Inserting the pick too far may damage the LCD.
- Pull the suction cup's plastic nub to release the vacuum seal and remove the suction cup from the display assembly.

## Step 9



- Reheat and replace the iOpener.
  - ⚠ Be careful not to overheat the iOpener during the repair procedure. Always wait at least ten minutes before reheating the iOpener.

## Step 10



- Place a second opening pick alongside the first and slide the pick down along the edge of the iPad, releasing the adhesive as you go.

## Step 11



- Continue moving the opening pick down the side of the display to release the adhesive.
- If the opening pick gets stuck in the adhesive, "roll" the pick along the side of the iPad, continuing to release the adhesive.



## Step 12



- Take the first pick you inserted and slide it up toward the top corner of the iPad.
- If you can see the tip of the opening pick through the front glass, don't panic—just pull the pick out just a little bit. Most likely, everything will be fine, but try to avoid this as it may deposit adhesive on the front of the LCD that is difficult to clean off.

## Step 13



- Reheat the iOpener and place it on the top edge of the iPad, over the front-facing camera.
- ⚠ Be careful not to overheat the iOpener during the repair procedure. Wait at least ten minutes before reheating the iOpener.
- ⓘ If you have a flexible iOpener, you can bend it to heat both the upper left corner and the upper edge at the same time.

## Step 14



- Slide the opening pick around the top left corner of the iPad to separate the adhesive.

## Step 15



- Slide the opening pick along the top edge of the iPad, stopping just before you reach the camera.

**i** The third image shows where the front-facing camera and housing are in the iPad.

**⚠** Avoid sliding the opening pick over the front facing camera, as you may smear adhesive onto the lens or damage the camera. The following steps will detail how to best avoid disturbing the front facing camera.

## Step 16



- Pull the pick out slightly, and slide the very tip gently along the top of the front-facing camera section of the top edge.

## Step 17



- Leave the opening pick in the iPad slightly past the front-facing camera.
- Take a second pick and insert it to the left of the camera, and then slide it to the corner of the iPad to finish cutting the adhesive on that edge.

## Step 18



- Insert the previous pick deeper into the iPad and slide it away from the camera toward the corner.

## Step 19



- Leave the three picks in the corners of the iPad to prevent re-adhering of the front panel adhesive.
- Reheat the iOpener and place it on the remaining side of the iPad—along the volume and lock buttons.



## Step 20



- Slide the opening pick around the top right corner of the iPad, releasing the adhesive there.
- ⓘ Leave this pick in place to keep the adhesive from re-sealing itself, and grab a new pick for the next step.

## Step 21



- Insert a new opening pick and slide it to the middle of the right edge of the iPad, releasing the adhesive as you go.
- ⚠ [The display cables](#) are located approximately halfway from the bottom of the iPad. Stop sliding the pick when you get ~4.5" from the bottom of the iPad.

## Step 22



- Leave the opening picks in place, and set the reheated iOpener on the home button end of the iPad.

## Step 23



- Slide the lower left pick to the lower left corner to cut the adhesive on that corner.
  - Leave the pick at the corner. Do not pry any farther, and do not remove the pick from the iPad.
- i** The third image shows the two antennas and the home button cavity in the lower case of the iPad.
- The following steps will direct you where to pry to avoid damage to these components. Only apply heat and pry where directed.



## Step 24



**i** Leave the pick from the last step in place to prevent the adhesive from re-sealing.

- With a new pick, slice gently over the left-hand antenna, stopping before the home button.

**!** Only slide the pick from the outer edge toward the center of the iPad. Do not move the pick back toward the outer edge, as moving in this direction may damage the antenna.

**i** If you need to slide the pick over the lower section more than once, remove it and re-insert at the outer edge, and slide inwards.

- Leave the pick in place before moving on.

## Step 25




- Take a new pick and slip it in to the right of the previous pick.
- Slide across the home button and right-hand antenna using **only the very tip** to remove the adhesive.

## Step 26



- With the adhesive loosened, you can now insert the pick near the right-hand corner.

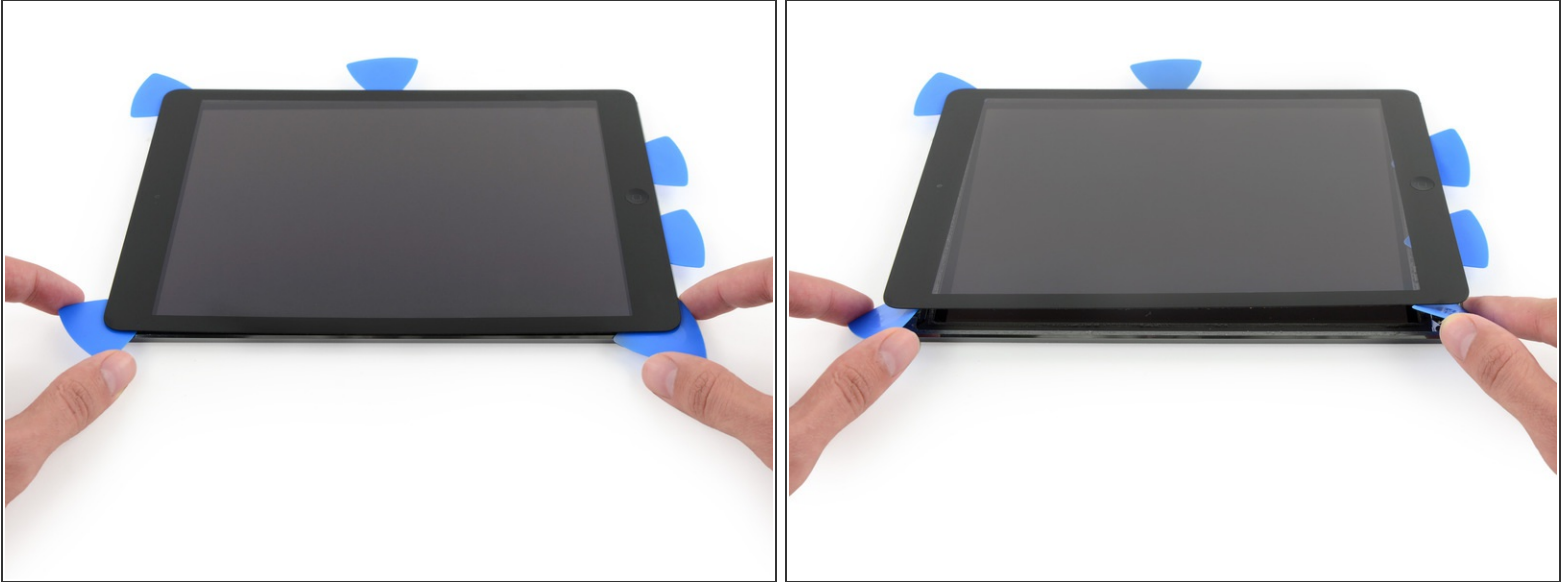
 Just like with the left antenna, only slide from the outer edge toward the center. Reversing this direction may damage the antenna.

## Step 27



- Reheat and reapply the iOpener to the volume control side of the iPad.

## Step 28



**⚠ Be very careful with this step.** Take your time and ensure the adhesive is hot and soft, and that you've been through all of the adhesive with an opening pick. Don't be afraid to stop and reheat.

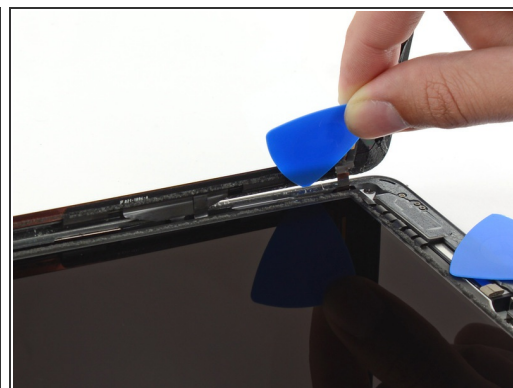
- On the side of the iPad opposite the volume controls, you should have a pick lodged into each corner. Twist the picks to lift the glass slightly, separating the last of the adhesive along the display cable edge.
- ⓘ If you encounter a significant amount of resistance, leave the picks in place, reheat, and reapply the iOpener to the problem areas.

## Step 29



- Lift slowly and gently to further detach the adhesive along the display cable edge.

## Step 30

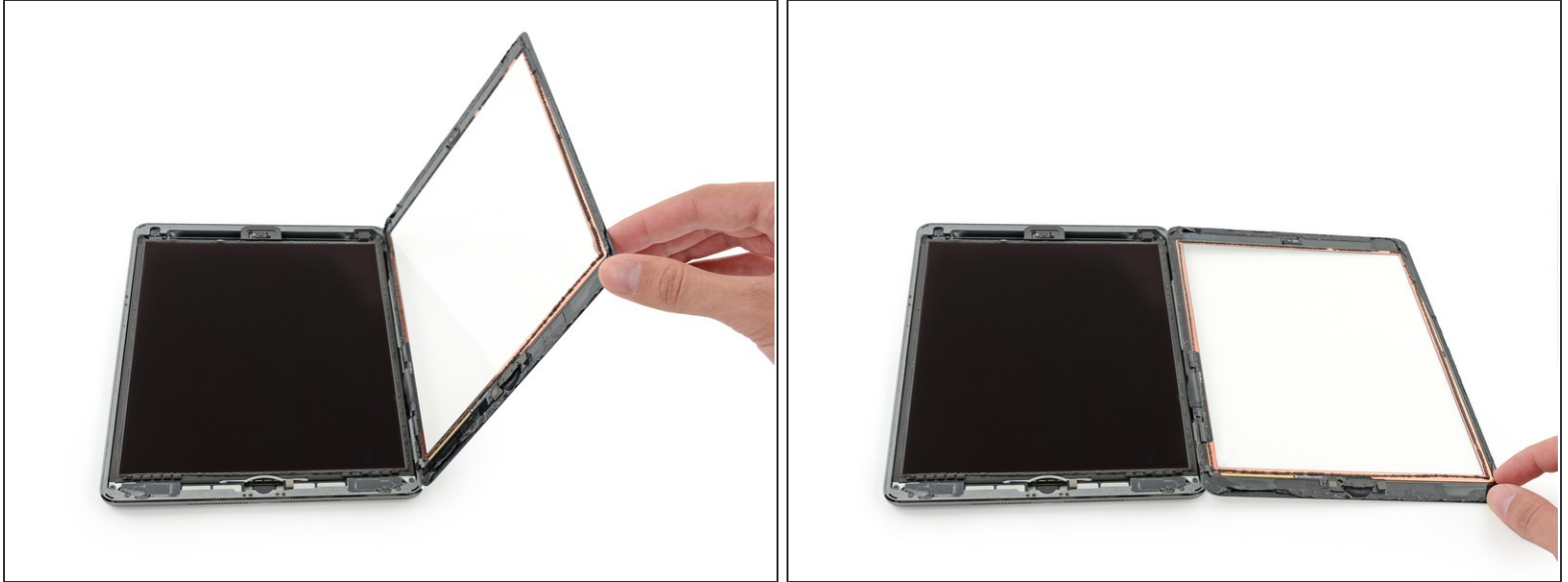


- While supporting the front panel glass, use an opening pick to cut the last of the adhesive.

⚠ Be very careful not to cut or damage any of the display cables.



## Step 31



- Once all of the adhesive has been separated, open the front glass like a page in a book and rest it on your workspace.
- ✦ During reassembly, clean the remains of the adhesive from the case (and the front glass if you are re-using it) with isopropyl alcohol, and replace the adhesive using [pre-cut adhesive strips](#).
- ✦ It's easy to pinch a flex cable between the front glass and the iPad's frame during reassembly. Be mindful of the flex cables and make sure they gently fold and tuck under the frame. If the folds in a flex cable are pressed completely flat, it may be damaged beyond repair.

## Step 32 — LCD



- Remove any tape obscuring the LCD screws.

## Step 33



- Remove the four Phillips screws securing the LCD:
  - Three 4.0 mm screws
  - One 4.8 mm screw



## Step 34



**⚠** Do not attempt to fully remove the LCD. It is still connected to the iPad by several cables at the home button end. Lift only from the front-facing camera end.

- Use the flat end of a spudger to pry the LCD out of its recess just enough to grab it with your fingers.
- Flip the iPad LCD like a page in a book, lifting near the camera and turning it over the home button end of the rear case.

**⚠** Be gentle and keep an eye on the LCD cables as you flip the display over.

- Lay the LCD on its face to allow access to the display cables.

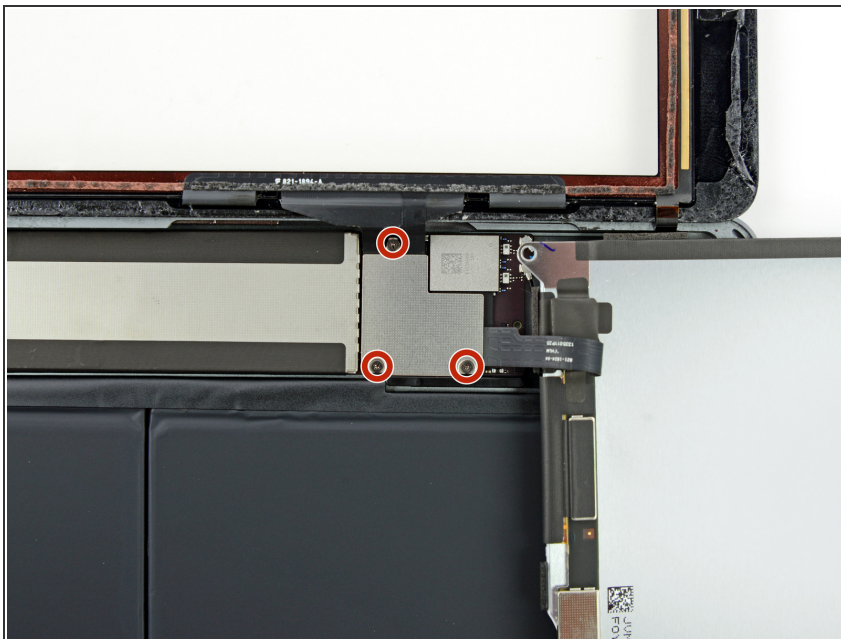
**i** Set the LCD down on a soft, clean, lint-free surface.

## Step 35



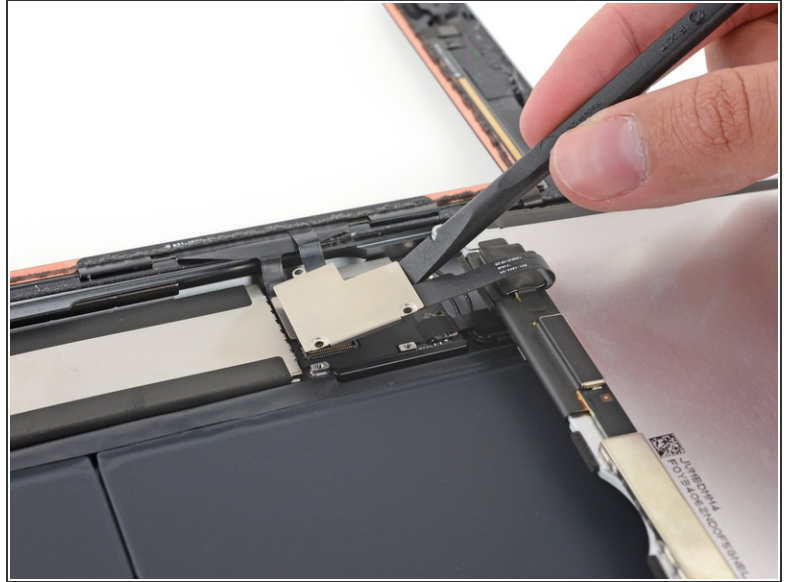
- Remove the single 2.3 mm Phillips screw securing the battery connector to the logic board.
- ⓘ To reduce the risk of a short, you can use a battery isolation pick to disconnect the battery.
  - Slide a battery isolation pick underneath the battery connector area of the logic board, and leave it in place while you work.

## Step 36




- Remove the three 1.4 mm Phillips screws securing the display cable bracket.

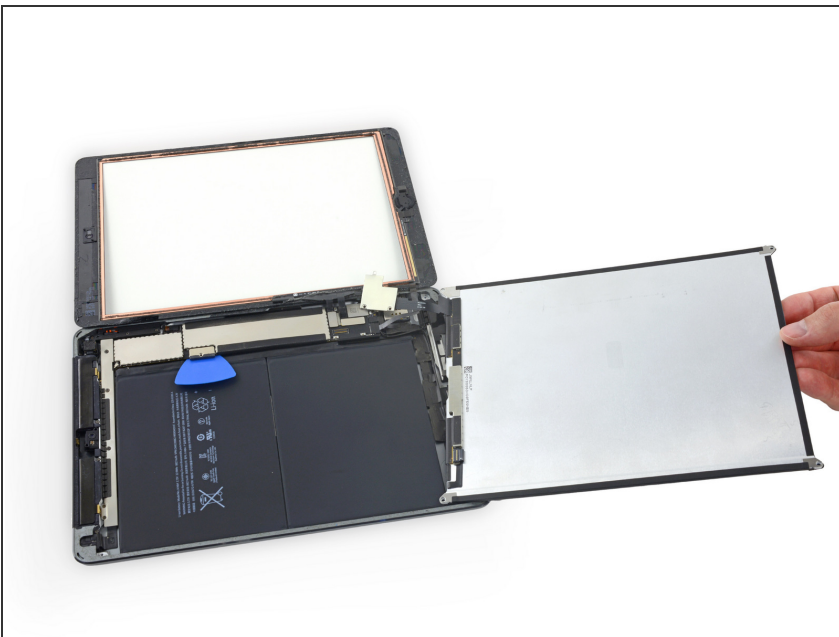
## Step 37



- Use the flat end of a spudger to gently pry the display cable bracket straight up from the logic board.

 The display cable connector is adhered to the underside of the bracket, so don't push the spudger too far under the bracket, or you may damage the connector.

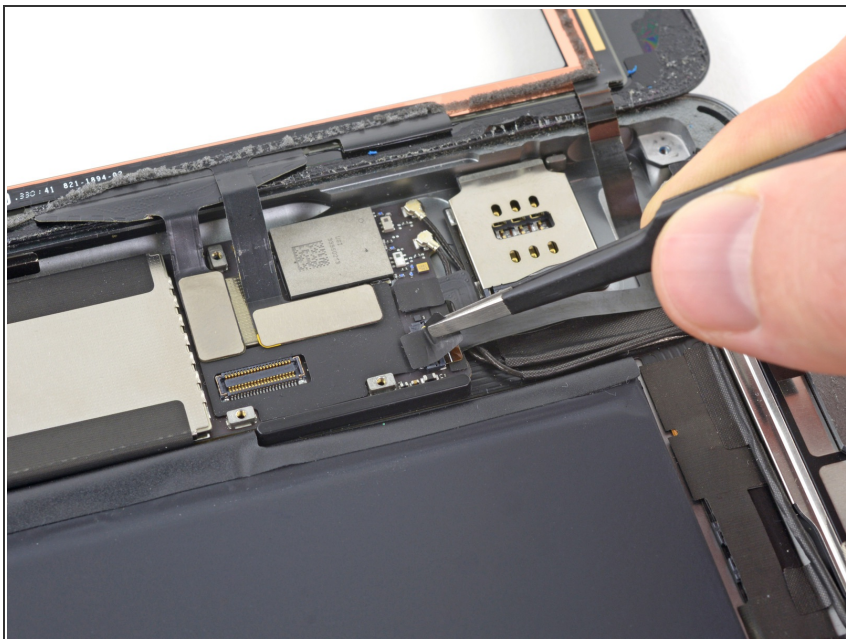
## Step 38



- Remove the LCD.

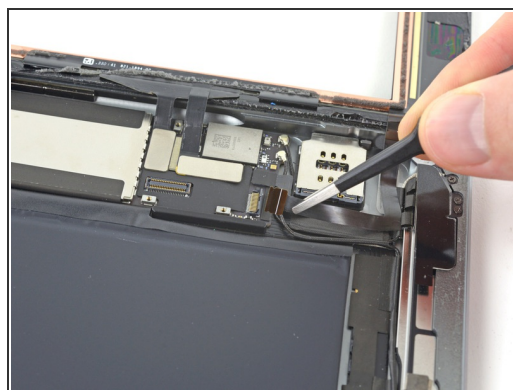


## Step 39 — Front Panel Assembly



- Remove any tape covering the home button ribbon cable connector.

## Step 40




- Use the flat end of a spudger to flip the tab on the home button ribbon cable ZIF connector upward.
- Carefully pull the home button ribbon cable straight out of the ZIF connector.

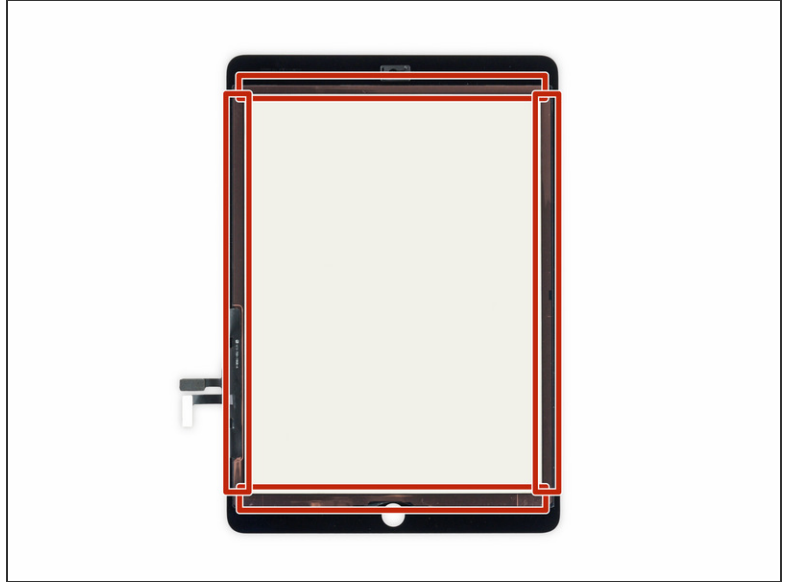
## Step 41




- Use the flat end of a spudger or a fingernail to carefully pop the two digitizer cable connectors straight up from their sockets.

 To avoid damaging your iPad, pry only on the connectors themselves, **not** on the socket on the logic board.

## Step 42



- Remove the front panel assembly.

 If the home button ribbon cable sticks to the iPad's rear case, don't try to force it. Gently peel it off the case using a pair of tweezers, and then you can fully remove the front panel assembly.

- ☑ During reassembly, to prevent "ghost" or "phantom" touch input issues with your iPad, check to make sure there is a layer of foam or tape covering the metal frame on the back of the glass.
  - These areas, which are part of the digitizer, are covered by foam adhesive on your iPad's original front panel. Some replacement panels leave this area exposed, which can cause it to ground out against other components. You can protect it by adding a layer of very thin insulating tape, such as [Kapton \(polyimide\) tape](#).



## Step 43 — Battery



**i** In the following steps, you'll use plastic cards to separate the battery, which is glued to the rear case.

**!** Some minor warping or deformation of the battery is unavoidable, but **be very careful not to puncture or delaminate it**. Lithium-ion batteries contain dangerous chemicals and may catch fire if mishandled.

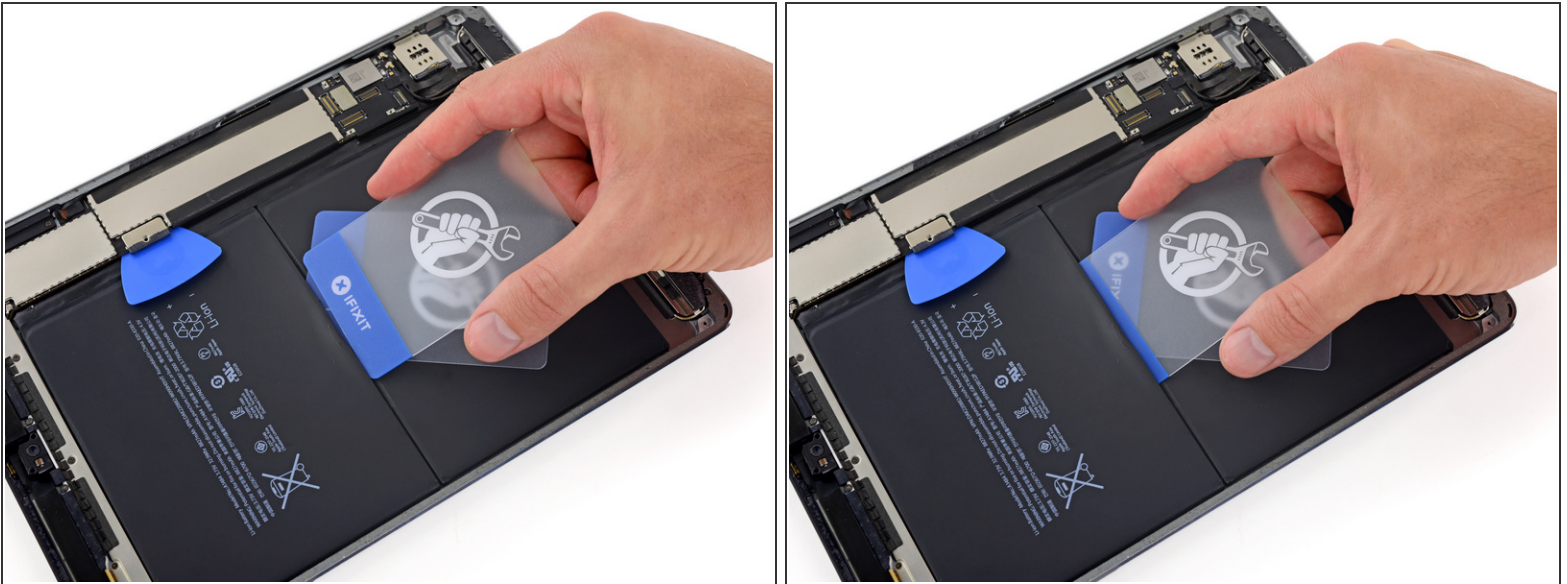
- Starting from the middle of the iPad, insert one corner of a plastic card beneath the upper battery cell.

## Step 44



- Remove the card and re-insert it nearby, opening up enough space to insert the entire short edge of the card.
- Leave one corner of the card under the battery, near the center.

## Step 45




- Slide the short edge of a second plastic card underneath the upper battery cell, on top of the first plastic card.

## Step 46



- Insert multiple additional cards *between* the first and second card to create a wedge that will begin to lever the battery away from the rear case.

 Don't insert your cards beneath or on top of the two starter cards, as the added pressure will increase the risk of puncturing the battery.

 You can use additional plastic cards, old/expired credit cards, or even playing cards for this step.

## Step 47



- Remove the cards.



## Step 48



- Re-insert a corner of your plastic card under the upper battery cell, near the left edge of the iPad.

## Step 49



- Slide the short edge of a second plastic card underneath the battery cell and above the first plastic card.

## Step 50



- Insert multiple additional cards *between* the first and second card to create a wedge and lever this section of the battery away from the rear case.

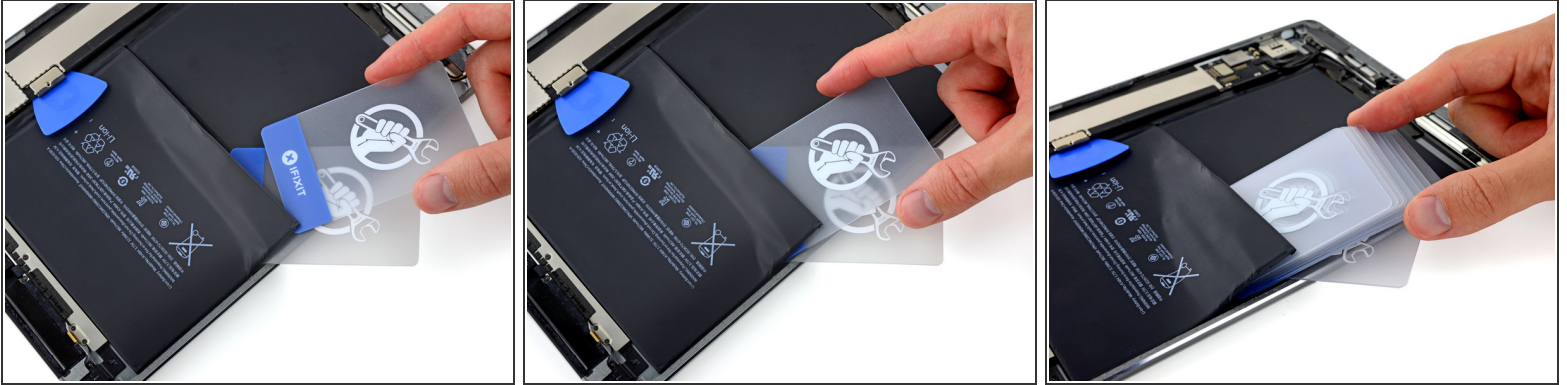
## Step 51




- Remove the cards.



## Step 52




- Repeat the above steps to wedge up the lower left corner of the upper battery cell.

 Remember not to puncture the battery. Keep deformation to a minimum. Do not crease or fold the battery.

## Step 53



- Finish wedging up the upper battery cell using the above procedure by inserting cards along the left edge of the upper battery cell (the edge opposite the logic board).

 Don't use any cards to pry under the battery from the top edge of the iPad, or you may damage the upper case components.

## Step 54



- Remove the battery isolation pick.

## Step 55




- Gently lift the upper battery cell from the edge opposite the logic board, and swing it up to separate it from the rear case.



## Step 56



- Repeat the above procedure to separate the second, lower battery cell from the rear case.

 Insert your cards only from the top edge of the battery cell and from the side opposite the logic board. Don't use any cards to pry under the battery from the bottom edge of the iPad, or you may damage ribbon cables for the speakers, antennas, and Lightning connector.

## Step 57



- Gently lift the lower battery cell from the edge opposite the logic board, and swing it up to separate it from the rear case.

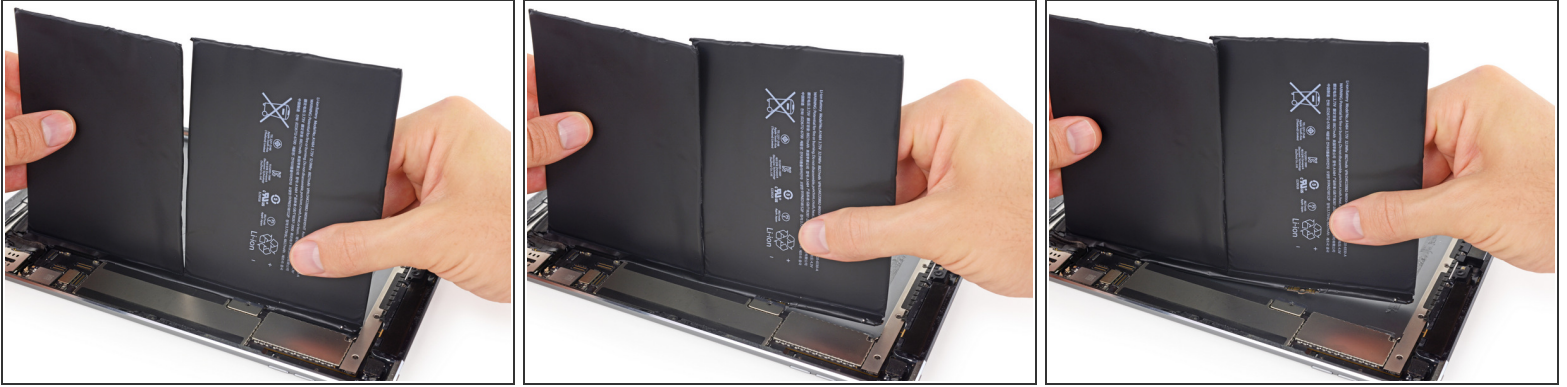
 Don't try to fully remove the battery yet.


## Step 58



- Use an opening pick to slice through the adhesive directly underneath the battery connector terminal.
- ⓘ There's a small standoff in the case that helps seat this connector. The pick may be obstructed by this. Simply work the pick around each side of the standoff to slice through the adhesive.

## Step 59



- Stand both battery cells up perpendicular to the iPad.
  - Clear the standoff by *gently* rocking the upper cell slightly away from the rear case, and then pulling it to the side (away from the logic board).
-  You don't need to lift very far (2 or 3 mm). Work carefully and don't put any unnecessary pressure on the logic board. **Do not** attempt to simply pull the battery straight up, or you may damage the logic board.

## Step 60



- Remove the battery.

To reassemble your device, follow these instructions in reverse order.



